

Date: Monday, 23/02/2009 10:29:07 AM  
 User: Julie Dawson

## Process Sheet

<b>Customer</b> :	CU-DAR001 Dart Helicopters Services	<b>Drawing Name</b> :	FLOAT SKID ASSEMBLY
<b>Job Number</b> :	45975A		
<b>Estimate Number</b> :	10756		
<b>P.O. Number</b> :		<b>Part Number</b> :	D412742043
<b>This Issue</b> :	23/02/2009	<b>S.O. No.</b> :	
<b>Prsht Rev.</b> :	NC	<b>Drawing Number</b> :	D3391 REV. H
<b>First Issue</b> :	23/02/2009	<b>Project Number</b> :	N/A
<b>Previous Run</b> :	44112A	<b>Drawing Revision</b> :	8/11
<b>Written By</b> :		<b>Material</b> :	
<b>Checked &amp; Approved By</b> :	JUD 09.02.23	<b>Due Date</b> :	15/03/2009
<b>Comment</b> :	Est Rev A 05.10.13 New Issue KJ/JLM Est Rev B 06.02.13 ECN 773 dwg @ rev.D EC Est Rev:C 07-05-28 As per Rev F JLM Est Rev:D 07-12-04 ECN 1072 DD verified by:JLM Est Rev:E 08-09-08 ecn 08-510 DD verified by:EC	<b>Qty:</b>	1 Um: Each

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

1.0	DC	DOCUMENT CONTROL
-----	----	------------------

**Comment:** DOCUMENT CONTROL

If D412-742-043 is a W/O on it's own,  
 Photocopy bluefile and create labels per PPP D412-742-043 CHG004

2.0	HAND FINISHING1	HAND FINISHING RESOURCE #1
-----	-----------------	----------------------------

**Comment:** HAND FINISHING RESOURCE #1

1-Spray inside tube of D3391-021/-023/-025 with LPS-3 as per Dwg D3391

A/R LPS-3 ——— M109956

2-Install tubes together and seal them all the way around using Sikaflex 241/291. Ensure tube ends line-up with saddle holes for proper alignment. using 7/16" "T" Pins.

A/R Sikaflex-241/-291 ——— M109883  
 Expiry date: ——— 09/11

3-Install wearplates as per Dwg D3391. Ensure that plastic washers are against wearplate, then topped with the SS washer. Coat bolts with LPS "procyon".

Seal all bolts with sikaflex except ones with inserts on inside of tube ,hand tighten only bolts with no sikaflex.

A/R LPS Procyon ——— M104251  
 A/R Sikaflex-241/-291 ——— M109883  
 Expiry date: ——— 09/11

4-Remove "T" pins once sikaflex is dry.

M.H.  
 09/02/07

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
09/02/24	3.1	D3391-021 Qty 1 Batch: B44041B 9V 0903 07/11		09/02/24	1		S 09/03/23
	5.1	D3591-1 Qty 2 Batch: 43172 09-03-03 X2			2		S 09/03/23

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Monday, 23/02/2009 10:29:07 AM  
User: Julie Dawson

## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FLOAT SKID ASSEMBLY

Job Number: 45975A

Part Number: D412742043

Job Number:



Seq. #:

Machine Or Operation:

Description:

5-Coat all exposed hardware with LPS Procyon. Remove any excess off with MEK degreaser.

M104251

JH

09-03-03

(X1)

3.0

D3391023

Mid Tube Assembly



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

pick:

Qty Part Number Description

Batch

1 D3391-023 Mid Tube Assembly

B44072

\*

JH

4.0

D3391025

Aft Tube Assembly



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

pick:

Qty Part Number Description

Batch

1 D3391-025 Aft Tube Assembly

B41754

\*

JH

5.0

D35641

Wearshoe



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

WEARSHOE

Batch:

B45433

JH

6.0

D35661

Gasket



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

GASKET

Batch:

B45826

(1X)

/B46185 (X1)

JH

7.0

D35643

Wearshoe



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

WEARSHOE

B40530

JH

8.0

D35645

Wearshoe



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

WEARSHOE

B4141658

JH

09-03-03

(X1)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

Date: Monday, 23/02/2009 10:29:07 AM  
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## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FLOAT SKID ASSEMBLY

Job Number: 45975A

Part Number: D412742043

Job Number:



Seq. #:

Machine Or Operation:

Description :

9.0

D35665

Gasket



Comment: Qty.: 1.0000 Each(s)/Unit Total: 1.0000 Each(s)

GASKET

Batch: 1344174

24

10.0

AN3C4A

BOLT



Comment: Qty.: 24.0000 Each(s)/Unit Total: 24.0000 Each(s)

BOLT

Batch: 11116844

24

11.0

AN3C6A

BOLT



Comment: Qty.: 12.0000 Each(s)/Unit Total: 12.0000 Each(s)

BOLT

Batch: 11110372

24

12.0

AN3C7A

BOLT



Comment: Qty.: 8.0000 Each(s)/Unit Total: 8.0000 Each(s)

BOLT

Batch: 11107376

24

13.0

AN960C10L

washer



Comment: Qty.: 44.0000 Each(s)/Unit Total: 44.0000 Each(s)

washer

Batch: 11110267

24

09-03-03

(XU)

14.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

Soekus103

(XU)

15.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D412-742-043

Location:

PPP Rev:

7377

45975

9/3/12

810

**Dart Aerospace Ltd**

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

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## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: FLOAT SKID ASSEMBLY

Job Number: 45975A

Part Number: D412742043

Job Number:



Seq. #:

Machine Or Operation:

Description :

16.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

①  
209/03/13

Job Completion



209-03-13

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

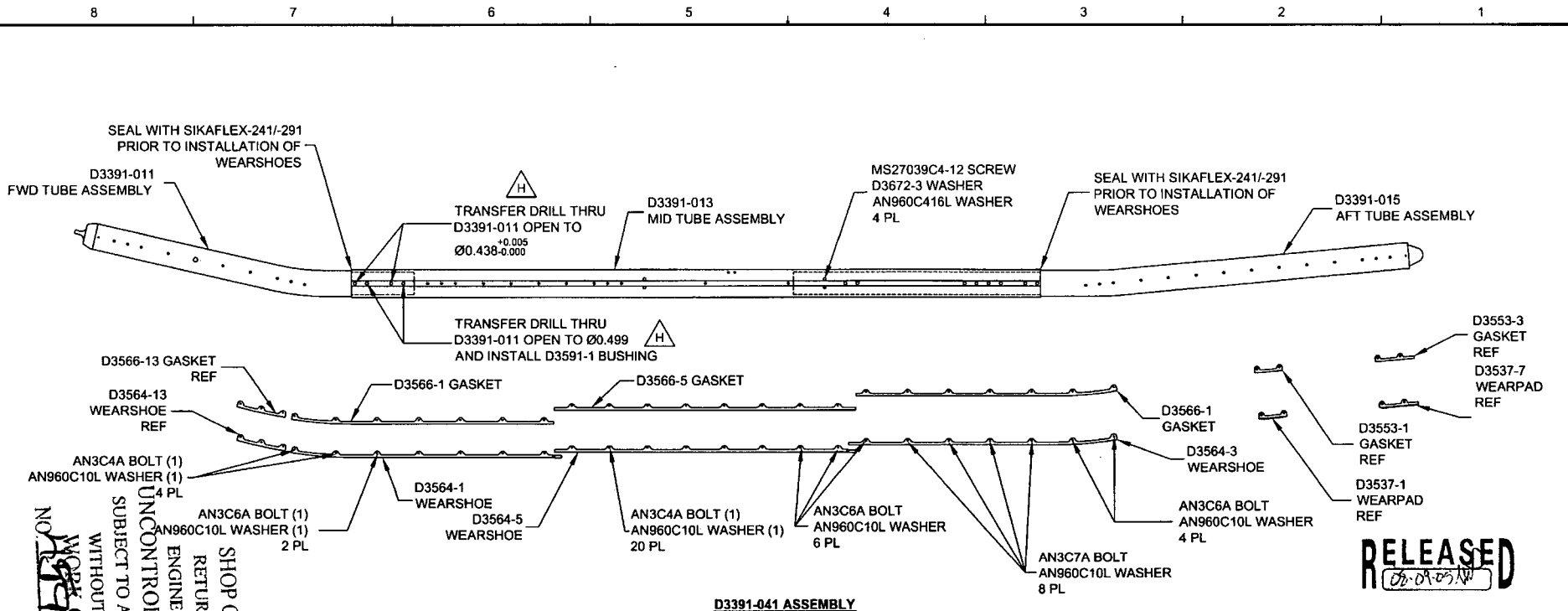
Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries





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**D3391-041 ASSEMBLY**

**D3391-041 FLOAT SKIDTUBE ASSEMBLY PARTS LIST**

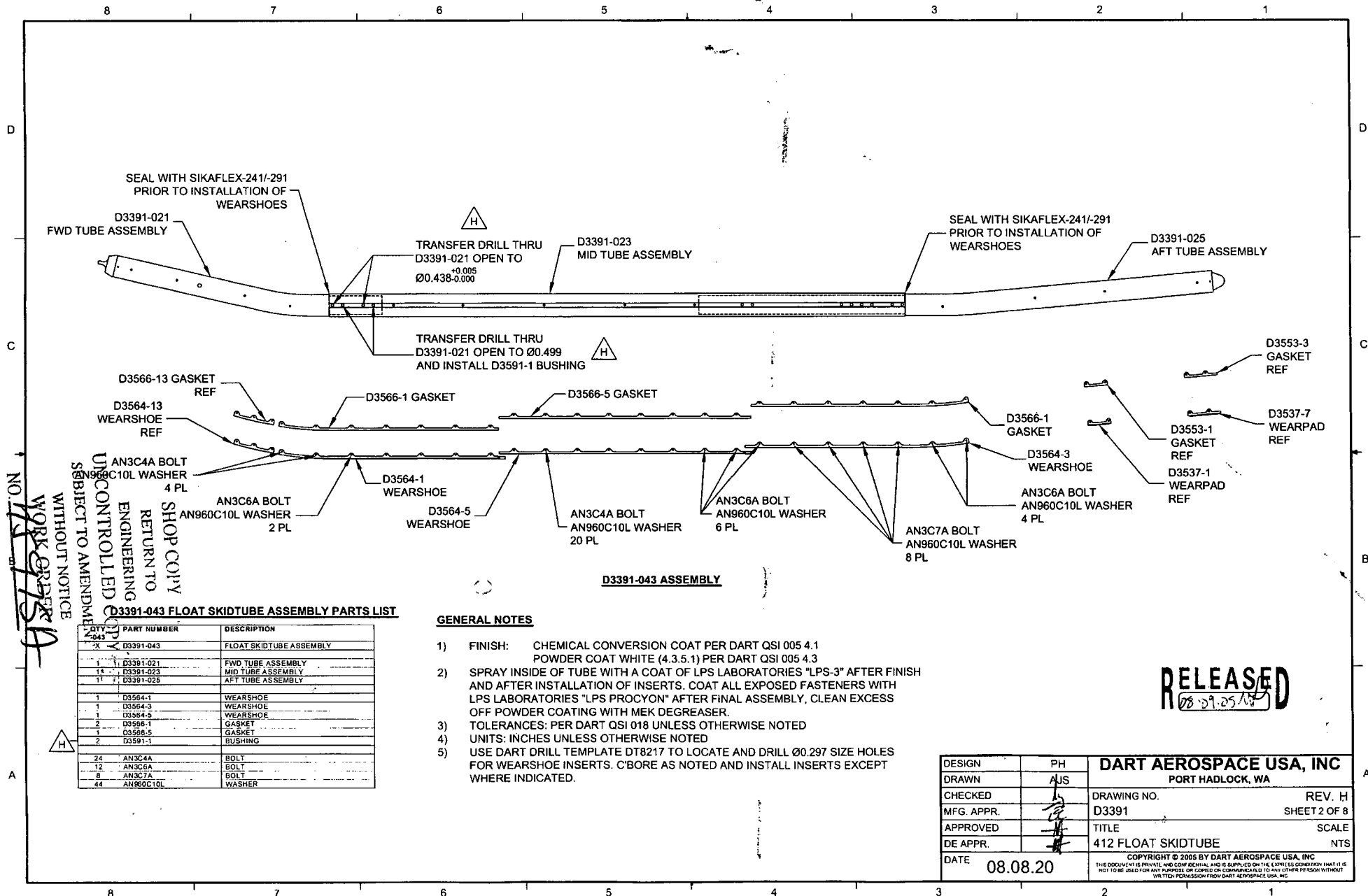
QTY	PART NUMBER	DESCRIPTION
X	D3391-041	FLOAT SKIDTUBE ASSEMBLY
1	D3391-011	FWD TUBE ASSEMBLY
1	D3391-013	MID TUBE ASSEMBLY
1	D3391-015	AFT TUBE ASSEMBLY
1	D3564-1	WEARSHOE
1	D3564-3	WEARSHOE
1	D3564-5	WEARSHOE
2	D3566-1	GASKET
1	D3566-5	GASKET
2	D3591-1	BUSHING
4	D3672-3	WASHER
24	AN3C4A	BOLT
12	AN3C6A	BOLT
8	AN3C7A	BOLT
44	AN960C10L	WASHER
4	MS27039C4-12	SCREW
4	AN960C416L	WASHER

**GENERAL NOTES**

- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES FOR WEARSHOE INSERTS. CBORE AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.

H	DRAWING UPDATED TO CURRENT STANDARDS. SHT 1 PL. ADDED D3591-1 BUSHING. ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. SHT 2 PL. ADDED D3591-1 BUSHING. ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. (FOR FURTHER INFO SEE DSI 9364 & NCR 08-074)	AJS	08.08.20
G	REPLACE NAS INSERTS W/ AELS INSERTS SWITCH TO D3670-XXXX SPACERS FOR INSTALLING FLOAT BAGS, DWG REORGANIZED FOR CLARITY	DC	07.07.31
F	ADD SS WEARSHOE, GASKET REMOVE FWD SADDLE HOLE -011/-021	PH	07.01.18
E	CHANGE TOLERANCE, EASE MANUFACTURE	PH	06.04.25
D	UPDATE TOLERANCE, CHANGE HOLE SIZE	PH	06.01.23
C	LENGTHEN AFT EXTENSION	PH	05.09.27
B	DRAWING UPDATES	PH	05.06.10
A	NEW ISSUE	PH	05.02.07
REV.	DESCRIPTION	BY	DATE
DESIGN	PH	<b>DART AEROSPACE USA, INC</b>	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 1 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
DATE	08.08.20	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC	

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# **D3391-043 FLOAT SKID TUBE ASSEMBLY PARTS LIST**

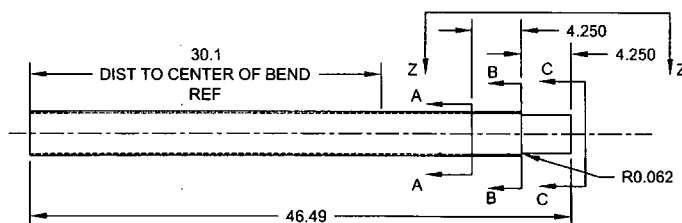
QTY	PART NUMBER	DESCRIPTION
1	D3391-043	FLOAT SKID TUBE ASSEMBLY
1	D3391-021	FWD TUBE ASSEMBLY
1	D3391-023	MID TUBE ASSEMBLY
1	D3391-025	AFT TUBE ASSEMBLY
1	D3564-1	WEARSHOE
1	D3564-5	WEARSHOE
2	D3566-1	GASKET
1	D3566-5	GASKET
2	D3591-1	BUSHING
24	AN3C4A	BOLT
12	AN3C6A	BOLT
8	AN3C7A	BOLT
44	AN960C10L	WASHER

## **GENERAL NOTES**

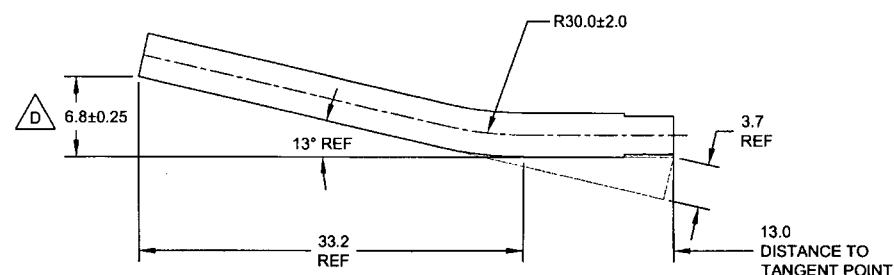
- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.

**RELEASED**  
 08-09-25/14

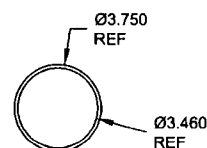
DESIGN	PH	<b>DART AEROSPACE USA, INC</b>	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 2 OF 8
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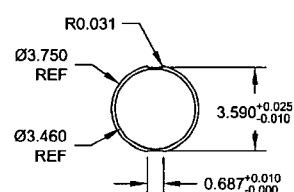
**D3391-1 CUTTING DETAIL**  
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



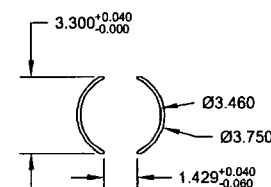
**D3391-011/-021 BENDING DETAIL**  
(MAKE FROM D3391-1)



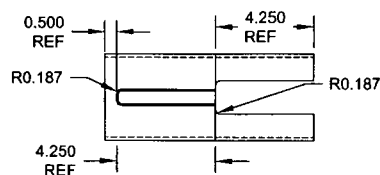
**SECTION A-A**  
SCALE 2X



**SECTION B-B**  
SCALE 2X






**SECTION C-C**  
SCALE 2X

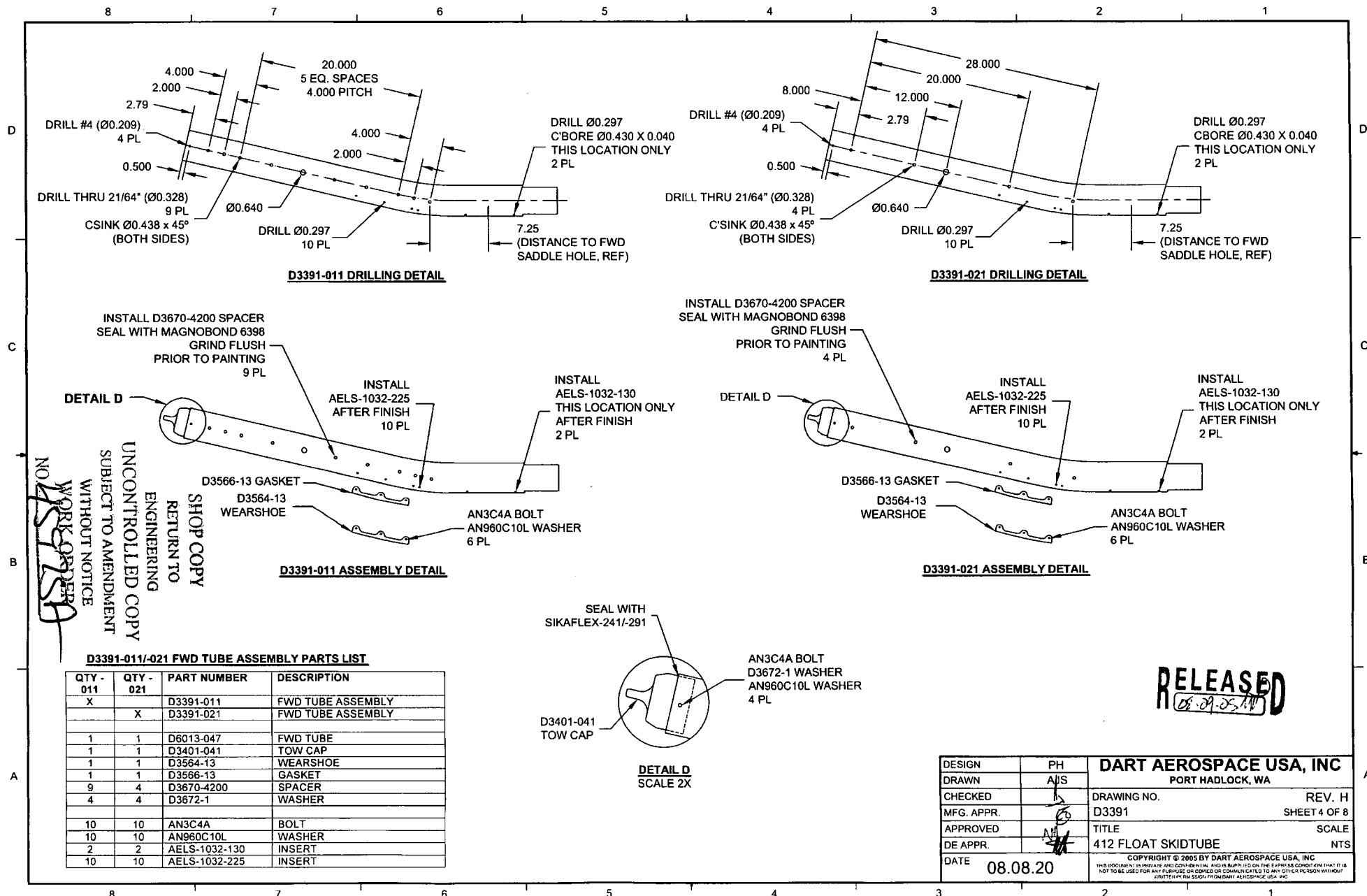


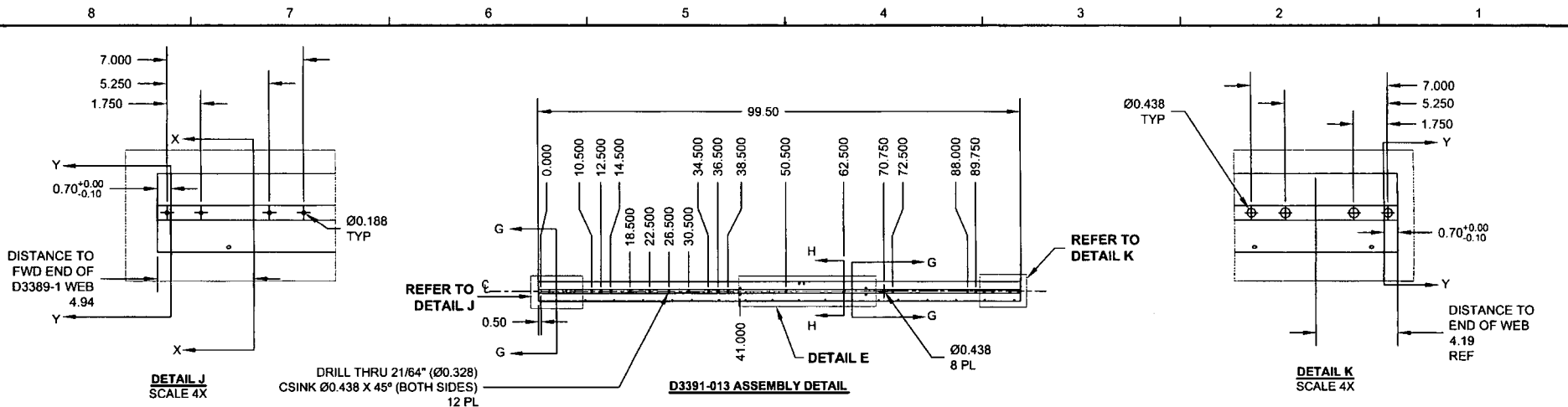
**VIEW Z-Z**  
SCALE 2X

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**DETAIL J**  
SCALE 4X

DRILL THRU 21/64" (Ø0.328)  
CSINK Ø0.438 X 45° (BOTH SIDES)  
12 PL

**D3391-013 ASSEMBLY DETAIL**

**DETAIL K**  
SCALE 4X

**SECTION G-G**  
SCALE 5X

**SECTION H-H**  
SCALE 5X

**SECTION X-X**  
SCALE 5X

**SECTION Y-Y**  
SCALE 5X

**SECTION M-M**  
SCALE 5X

**SECTION LL-LL**  
SCALE 5X

**DETAIL E**  
SCALE NONE

**SECTION L-L**  
SCALE 5X

**RELEASED**  
08-08-20

**D3391-013 MID TUBE ASSEMBLY PARTS LIST**

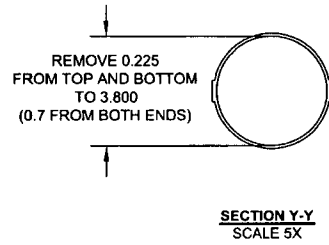
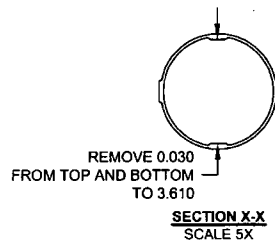
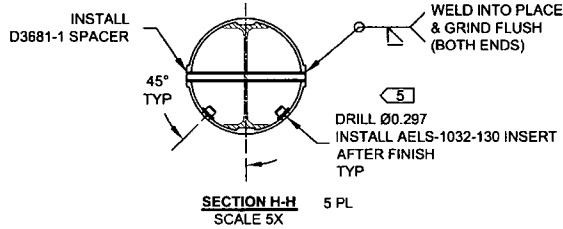
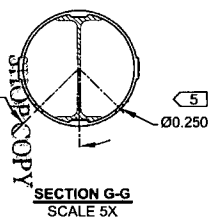
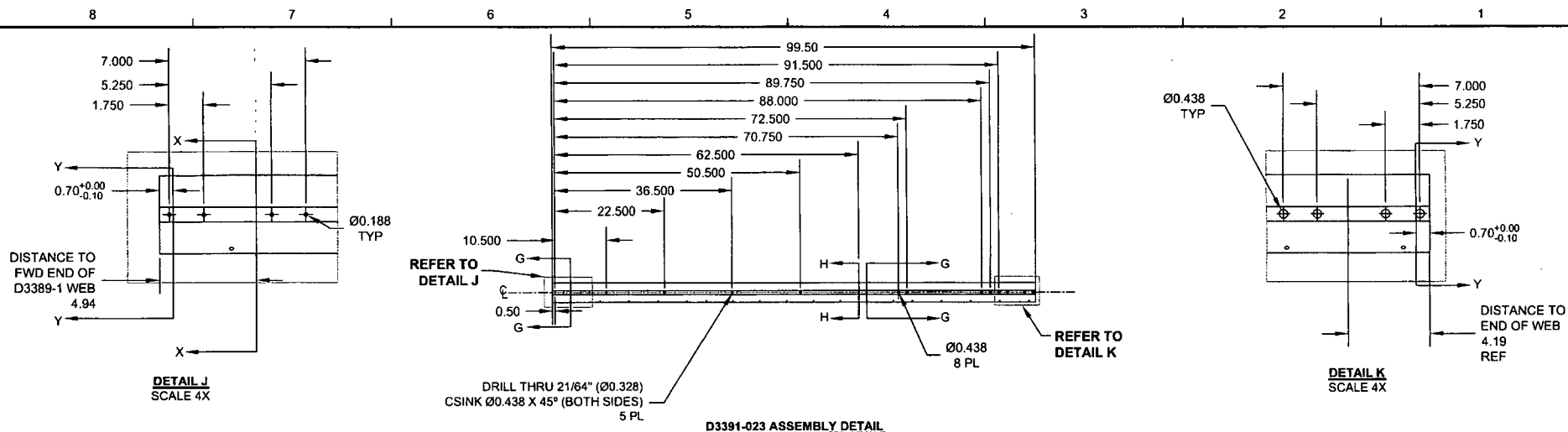
QTY	PART NUMBER	DESCRIPTION
X	D3391-013	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
4	D3672-1	WASHER
4	D3672-3	WASHER
12	D3681-1	SPACER
24	AELS-1032-130	INSERT
4	ALS4-428-165	INSERT
4	AN960C10L	WASHER
4	AN960C416L	WASHER
4	MS27039C1-09	SCREW
4	MS27039C4-08	SCREW

**D3391-013 MID TUBE ASSEMBLY**

- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
- 3) WELDING: PER DART QSI 004

DRILL Ø0.391  
INSTALL ALS4-428-165 INSERT  
MS27039C4-08 SCREW  
D3672-3 WASHER  
AN960C416L WASHER  
AFTER FINISH  
4 PL

DESIGN	PH	<b>DART AEROSPACE USA, INC</b>	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. H
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**D3391-023 MID TUBE ASSEMBLY PARTS LIST**

QTY	PART NUMBER	DESCRIPTION
023		
X	D3391-023	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
5	D3681-1	SPACER
20	AELS-1032-130	INSERT

- D3391-023 MID TUBE ASSEMBLY**
- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
  - 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
  - 3) WELDING: PER DART QSI 004

DESIGN		PH	DART AEROSPACE USA, INC	
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08-05-17

